



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
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ENFORCEMENT &
COMPLIANCE ASSURANCE
DIVISION

August 2, 2019

Mark Larsen
Project Coordinator
ANCHOR QEA, LLC
1119 Pacific Avenue, Suite 1600
Tacoma, Washington 98402

Re: Bosma Lagoon 6 Liner Design
Administrative Order on Consent ("Consent Order")
Docket No. SDWA-10-2013-0080
Yakima Valley Dairies, Washington

Dear Mr. Larsen:

EPA has completed our review of:

H&S Bosma Dairy Lagoon No. 6 Basis of Design Report 100% Design Submittal
(June 24, 2019)

Based on our review, EPA has these comments:

General Comment

1. This is a large lagoon that approaches the requirements for dam safety review. It's important to ensure that the berm and side slopes are adequate, and that the lagoon will not overtop in the event of heavy inflow to the lagoon.

Specific Comments

1. **Section 3.4.1 – Side Slopes.** In the first paragraph, delete the last sentence that states, "Exterior slopes for Lagoon No. 6 are approximately 2H:1V." Replace it with, "Exterior slopes for Lagoon No. 6 shall not be steeper than 2H:1V." Modify the design drawings as appropriate. In the drawings, some of the south berm exterior slopes appear to be steeper than 2H:1V.
2. **Section 3.6 – Inlet and Outlet Piping.**
 - a. Modify the text to clearly identify the number and sizes of the inflow pipes to the finished, lined lagoon. State the size and location of the outflow pipe and explain how the size of the outflow pipe is more than adequate to accommodate maximum inflow to the lagoon.
 - b. Modify the text to state where the inflow to the lagoon comes from [list all lagoons that

contribute flow to Lagoon 8, list all drainage areas (e.g., cow pen areas, compost areas)].

3. **Section 3.8 – Washington State Dam Safety Act.** Delete the statement "A gate valve will be installed on the outlet pipe of the lined lagoon to eliminate potential hydraulic connectivity to downstream lagoons." Replace it with: "A gate valve will be installed on the outlet pipe of the lined lagoon. It will always be fully open during normal operating conditions. It will be temporarily shut only if necessary for maintenance activities."
4. Add the Lagoon 6 Operations and Maintenance Plan as an appendix to the Basis of Design Report. Modify the O&M plan to state that the gate valve in the outflow pipe will be fully open during normal operating conditions and closed only temporarily if necessary to perform maintenance activities.
5. Add the following statement to the Report: "The berm crest shall be at least ten feet wide at all locations along the berm." Modify the drawings as necessary to clarify that the berm crest will be at least ten feet wide.
6. **Figure 3 - Cross Section 6A-6A'.** The boring log L6W shows gravelly sand (SPP from 5.7 to 14.5 fbg with a thin sandy silt of less than 1 ft from 6.7 to 7.5 fbg. This is not as represented on Figure 3, the cross section, which shows about half of the layer graphically. Modify Figure 3 so that the gravelly sand layer is consistent with the boring log.
7. **Section 2.1.3 – Groundwater Conditions.** The report states that "The designed bottom elevation of Lagoon No. 6 is 904 feet...". The design elevation shown on the construction drawings is 908 feet. Correct the discrepancy. Correct the rubsheet Point Table Points 31 and 32 elevations to be consistent with the bottom of the liner.

Pursuant to Paragraph 14 of the Consent Order, the Respondents must address this comment and re-submit this document no later than August 30, 2019. You may contact me at (206) 553-6904, or your legal counsel may contact Jennifer MacDonald at (206) 553-8311, if you have any questions regarding this letter.

Sincerely,



Eric Winiacki
EPA Project Coordinator
Enforcement and Compliance Assurance Division

cc: Jennifer MacDonald
Rene Fuentes